

Abstract

This invention relates to an aluminum conductor composite core reinforced cable (ACCC) and method of manufacture. An ACCC cable having a composite core surrounded by at least one layer of aluminum conductor. The 5 composite core comprises at least one longitudinally oriented substantially continuous reinforced fiber type in a thermosetting resin matrix having an operating temperature capability within the range of about 90 to about 230 °C, at least 50% fiber volume fraction, a tensile strength in the range of about 160 to about 240 Ksi, a modulus of elasticity in the range of about 7 to about 30 Msi and a thermal expansion coefficient 10 in the range of about 0 to about 6×10^{-6} m/m/C. According to the invention, a B-stage forming process may be used to form the composite core at improved speeds over pultrusion processes wherein the speeds ranges from about 9 ft/min to about 50 ft/min.